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A FEW NOTES ON

SIR CHARLES LYELL'S

‘ANTIQUITY OF MAN’

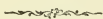
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THE ANTIQUITY OF MAN.



I PROPOSE in this Paper to offer to the Society some observations on the able and elaborate work of Sir Charles Lyell, 'The Geological Evidences of the Antiquity of Man,' strictly confining myself to the very few branches of the subject on which I have bestowed especial attention.

I may begin at once by stating my conviction that the evidence which has of late years been adduced, giving to the presence of Man on the earth an antiquity far beyond the usual estimate of it, is already satisfactorily established. There can, I think, now be no question that Man was a contemporary of animals, such as lions, hyenas, elephants, and rhinoceroses, extinct far beyond the reach of human record.

But among the evidences brought forward to prove the antiquity of Man, the paucity of relics of his own person, compared with the abundance of those the unquestionable work of his hands, have attracted special notice. Thus, in the valley of the Somme and other places, where flint implements have been found in abundance in the same drift with the bones of the extinct elephant and rhinoceros, not a single bone of a human skeleton has yet been discovered. The scarcity of human remains, compared with those of the lower animals, may, I think, be to some extent accounted for. In the savage state, Man is ever few in number compared with the

wild animals; and when he first appeared on earth,—when naked, unarmed, without language, and even before he had acquired the art of kindling a fire, the disparity must have been still greater. In that condition, he would have to contend for life and food with ferocious beasts of prey, with nothing to depend upon but a superior brain. In such circumstances, the wonder is, not that he should be few in number, but that he should have been able to maintain existence at all.

It is Man himself that has chiefly contributed to the destruction or diminution of wild animals; for in proportion as he has increased in number and power, have they decreased or disappeared,—while the domesticated animals, his especial creations, have increased so as far to outnumber what the wild ones ever could have been. In our own islands, the bear, the wolf, and beaver have disappeared for centuries, and deer exist only in a semi-domestic state. In the countries of Continental Europe, where there are extensive forests to shelter them, they still exist. In the wilder parts of populous and long-civilised Hindûstan, the lion, the tiger, the bear, the wolf, the elephant, the wild hog, wild dog, and rhinoceros, are still abundant; while the domestic cattle, in the wild state, are found as they existed in Europe 2,000 years ago. In still more populous and even more civilised China, all these animals have long disappeared, except in some of its unpeopled outskirts.

There are cases, however, in which Man himself is an agent in arresting the progress of the extermination of some wild animals. The introduction of the rabbit in this country has, no doubt, tended to the maintenance of the fox, the stoat, and the weasel. The carelessness of the Hindûs with regard to their own funerals, and their permitting their cattle to die of old age, cause a vast accumulation of carrion to feed the fox and jackal. Every night the howl of the jackal is to be

heard in the city of Calcutta; and the frequent corpses which are floated down the river afford an abundant supply of food to keep up the stock of alligators.

I may mention, under this head, a fact which has come under my own special cognizance. It has been observed that the tiger is not found in the small islands of the Eastern Sea which lie on the coasts of the continent, or of the great islands infested by it; and this, apparently, not from the absence but the scarcity of its prey—the hog and deer. Such was certainly the case with Singapore. For the first ten years after its occupation by us in 1819, no tiger was ever seen in it, or even suspected to exist. When first taken possession of, it may almost be said to have been uninhabited, for a paltry Malay village on a creek on one side of it was hardly an exception. It was then, and for the most part still is, covered by a dense, tall, tropical forest. Men and cattle in due time increased in number, and the tiger made his first appearance—seduced, most probably, to cross the Strait which divides the island from the continent, and which, in its narrowest part, is but a quarter of a mile broad to cross over, by the voices of the first and the howling of the last. One was at length trapped, and then another, and another; and now for near thirty years tigers carry off their annual human victims, and it has been found impossible to extirpate them.

Sir Charles Lyell adopts the theory of the unity of the human race, which, no doubt, best accords with the hypothesis of the transmutation of species. Neither he nor anyone else has ventured to point out the primordial stock from which the many varieties which exist proceeded. We see races of men so diverse, physically and mentally, as Europeans, negroes of Africa, negroes of New Guinea and of the Andaman Islands, Arabs, Hindûs, Chinese, Malays, Red Americans, Esquimaux, Hottentots, Australians, and Polynesians. So

far as our experience carries us, these races continue unchanged as long as there is no intermixture. The Ethiopian represented on Egyptian paintings 4,000 years old is exactly the Ethiopian of the present day. The skeleton of an Egyptian mummy of the same date does not differ from that of a modern Copt. A Persian colony settled in Western India 1,000 years ago, and rigorously refraining from intermixture with the black inhabitants, is not now to be distinguished from the descendants of their common progenitors in the parent country. For three centuries, Africans and Europeans have been planted in almost every climate of the New World and its islands; and, as long as the races have been preserved pure and unmixed, there is no appreciable difference between them and the descendants of their common forefathers.

But recent discoveries enable us to give additional evidence of the most instructive kind. I quote from Sir Charles Lyell himself:—‘The human skeletons of the Belgian caverns, of times coeval with the mammoth and other extinct mammalia, do not betray any signs of a marked departure in their structure, whether of skull or limb, from the modern standard of certain living races of the human family.’ In the same manner, the human skeletons found in the pile buildings of the Swiss lakes, and computed by some to be 12,000 years old, differ in no respect from those of the present inhabitants of Switzerland.

If the existing races of Man proceeded from a single stock, either the great changes which have taken place must have been effected in the locality of each race, or occurred after migration. Now, distant migration was impossible in the earliest period of man's existence. He must have acquired a considerable measure of civilisation—that is, he must have domesticated some animals for food and transport, have cultivated some kind of corn, and must have provided himself with arms of offence and defence—to enable him to have

undertaken even long land journeys; and the physical geography of the world forbids the possibility of distant sea voyages, which would imply the possession of strong boats or ships, with some skill in navigation, and, therefore, a still greater advance in civilisation. With the exception of a few inconsiderable islands, every region has, within the historical period, been found peopled, and usually with a race peculiar to itself. To people these countries by migration must have taken place in very rude times, and in such times nothing short of a great miracle could have brought it about.

It is only within the last three centuries and a half that the existence of half the inhabitants of the world became known to the other half. The civilised Greeks and Romans did not suspect the existence of a new world. Their knowledge of India was imperfect; and, of all the great countries east of it, their acquaintance amounted to nothing better than vague rumours and gossip. Of the great islands of the Indian Ocean and Pacific they were wholly ignorant; and even of Africa, so near to them, they knew nothing south of the Atlas and Great Desert. But for one race more highly endowed than the rest, the different races of mankind would now have been unknown to each other. It is this superior race which still keeps them in mutual acquaintance, or, at least, in intercommunication.

I conclude, then, that there is no shadow of evidence for the unity of the human race, and none for its having undergone any appreciable change of form. If 1,000 years, or 4,000 or 10,000 years, or 100,000, supposing this last to be the age of the skeletons of the Belgian race contemporary with the mammoth, it is reasonable to believe that multiplying any of these sums by a million of years would yield nothing but the same cipher.

Sir Charles Lyell has adopted what has been called the Aryan theory of language, and fancies that he finds in it

an illustration of the hypothesis of the transmutation of species by natural selection. The Aryan or Indo-European theory, which had its origin and its chief supporters in Germany, is briefly as follows. In the most elevated table-land of Central Asia there existed, in times far beyond the reach of history or tradition, a country, to which, on very slender grounds, the name of Aryana has been given, the people and their language taking their name from the country. The nation, a nomadic one, for some unknown cause betook itself to distant migrations, one section of it proceeding in a south-eastern direction, across the snows and glaciers of the Himalayas, to people Hindûstan, and another in a north-westerly direction, to people Western Asia and Europe, as far as Spain and Britain. 'Before their time,' says Professor Max Müller, the most recent expounder of the theory, 'the soil of Europe had not been trodden by either Celts, Germans, Slavonians, Romans, or Greeks,'—an assertion which can be interpreted to signify only that Europe at least was, before the suppositious migration, uninhabited. According to the theory, the human skeletons found in the caverns near Liége must have belonged to the nomadic wanderers from Central Asia, or their descendants; and so the era of the imaginary migration carries us back to a time when man was a contemporary of the extinct mammoth, the cave lion, and rhinoceros.

The entire fabric is founded on the detection of a small number of words, in a mutilated form, common to most, but not to all, the languages of Western Asia and Europe—a discovery, no doubt, sufficiently remarkable, but clearly pointing only to an antiquity in the history of Man far beyond the reach of history or tradition. On the faith of these few words, and as if language were always a sure test of race, people bodily and intellectually the most incompatible—the black, and the tawny, and the fair; the ever strong and

enterprising, the ever weak and unenterprising—are jumbled into one undistinguishable mass, and, with extraordinary confidence, pronounced to be of one and the same blood.

A language which the theorists have been pleased to call the Aryan is the presumed source of the many languages referred to. But the Aryan is but a language of the imagination, of the existence of which no proof ever has been, or can ever be, adduced. According to the theory, the Greek, the Latin,—even the Sanskrit, heretofore believed to be source of the common words,—are but sister languages derived from this unknown tongue. One fact seems to me a sufficient refutation of the dreamy hypothesis. Original languages, compared with those derived from them, are complex in their grammatical structure. The Latin is more complex in structure than the languages derived from it; and Sanskrit more complex than its derivative, the Pali. The Sanskrit is more complex in structure than Greek or Latin; indeed, the most complex of all known languages. It has, therefore, every mark of an original tongue; yet the theory supposes it to be a derivative language, which, if true, would give to its supposed parent, the Aryan, a degree of complexity which the imagination can hardly conceive.

The object of the theory would seem to be to prove that the many languages called the Aryan, or Indo-European, sprang all of them from a single source. The doctrine is extended to all the other languages of the earth, with the hope of reducing them from thousands to a very small number. Indeed, the argument, in Professor Max Müller’s hands, takes even a theological direction, for in his concluding Lecture we find him thus expressing himself:—‘The science of language thus leads us up to that highest summit from whence we see into the very dawn of man’s life on earth, and where the words which we have heard so often from the days of our childhood—“And the whole earth was

of one language and one speech," assume a meaning more natural, more intelligible, and more convincing than they ever had before.' For myself, I can see nothing natural or intelligible about so wild a figment.

But there are examples of foreign languages infused into native ones, just as mysterious and unaccountable as the oriental words found in the languages of Europe and Western Asia. A Malayan tongue, and that, too, in a more distinct and unquestionable form, is to be found, in more or less quantity, in the languages of the many various races of man which extend from within 2,000 miles of the western shore of America, to within 300 of the eastern shore of Africa. These races embrace Polynesians, several distinct Papuan races, Malays, and African negroes, speaking many totally distinct tongues; but we do not, on account of a comparatively few words common to all their languages, jump to the conclusion that the race of Man throughout is one and the same, and still less that the many languages spoken by them were originally one tongue.

The Aryan theory proceeds on the principle that all languages are to be traced to a certain residuum called 'Roots.' Some languages either are so, or are made to be so by grammarians. The copious Sanskrit is said to be traceable to some 1,900 roots, all monosyllables. The languages to which I have myself given special attention are certainly not traceable to any monosyllabic roots. In their simplest form, a few of the words of these languages are monosyllables, but the great majority are bisyllabic or trisyllabic, without any recondite sense whatever. But how are we to discover roots in the languages of China, and in those which lie between China and Bengal, seeing that they are all monosyllabic, unless, indeed, we are prepared to pronounce the entire body of their words to be mere roots? What room can there be in this case for what Professor Max Müller calls the

inter-comparison of the grammatical structure of languages, 'according to certain laws which regulate the phonetic changes of letters,' seeing that there is little grammatical structure, and nothing but poor monosyllables to operate upon?

But were the Aryan, or Indo-European, hypothesis as true as I believe it to be baseless, I cannot see how it illustrates, or, indeed, can have any possible bearing at all on the theory of the transmutation of species by natural selection, the progress of which is so slow—if, indeed, there be any progress at all—that no satisfactory evidence of it has yet been produced. The changes in language, on the contrary, are owing to forces in unceasing and active operation and the evidences are patent and abundant. They consist of social progress, and of the intermixture of languages through conquest, commercial intercourse, and religious conversions.

Sir Charles Lyell gives it as his opinion that no language lasts, as a living tongue, above 1,000 years. As the authentic history of Man is not above three times that length, and as, in some quarters of the world, the vicissitudes of language have been unquestionably great, it would, no doubt, be difficult to produce examples of a much longer duration. The Arabic, however, may be cited as a language which has had a somewhat longer duration, for the Koran is good Arabic at the present day, after the lapse of 1,240 years; and when the stationary state of society which belongs to the East, and the peculiar physical geography of the native country of the Arabs, are considered, I see no reason why it may not have been of twice the duration assigned to language by Sir Charles Lyell. I am told by competent judges that, saving the loss of its Dual number and Middle voice, modern Greek does not materially differ from ancient; and if such be the case, the Greek language—dating only from the time of Homer (and even then it was a copious tongue), has lasted some 2,600 years. Circumstances peculiar to it contributed to this

duration. Under the Roman Conquest, the conquerors looked up to the language of the conquered as superior to their own, and cultivated it. When the seat of government was transferred to the East, the Greek became the language of the Court and of the majority of the people; and, since the Turkish Conquest, disparity of race and religion, with its own intrinsic superiority over a barbarous speech, has tended to its preservation.

Fully admitting the mutability of all languages, Dr. Johnson makes the following observation:—‘The language most likely to continue long without alteration would be that of a nation raised a little, and but a little, above barbarity, secluded from strangers, and totally employed in procuring the conveniences of life.’ . . . ‘Man thus busied and unlearned, having only such words as common use requires, would, perhaps, long continue to express the same notions by the same signs.’ The meagre monosyllabic languages of China are cases in point. They have nothing to do with literature; they are incapable of amalgamation with foreign tongues; the state of society in China has long been stationary; and one can well believe that they have undergone little or no alteration, at least since the building of the great wall above 2,000 years ago.

There has existed no cause for change in the languages of the savages of Australia, from the time in which these savages assumed the form of society which existed among them when they were first seen by civilised man. Nearly all the appliances indispensable to progress in society were wanting in their country, and for ages they held no intercourse with strangers. Nothing remained for a people so circumstanced, but to remain for ever in the condition of rude hunters and fishermen. There is no reason why the language of a people in so stationary a condition may not have remained essentially unchanged for thousands of years.

Sir Charles Lyell attaches more value than I can do to the fact that philologists have not agreed as to what constitutes a language, and what a dialect. Following the philosophers of Germany, his object would seem to be to reduce all languages to a small number of primordial ones, in the same manner that the authors of the theory of the transmutation of species would reduce all species to a few monads. If there were any truth in the Aryan theory which is here advocated, it would of necessity follow that there would be no language at all in Western Asia or Europe, ancient or modern, and that Sanskrit, Greek, Latin, with all the modern languages, would be reduced to the rank of mere dialects or subdivisions of one primordial tongue—the airy fabulous Aryan, the mere creature of Teutonic imagination. I cannot give my belief to so monstrous a fiction, or see how it can be a parallel to the transmutation of species by natural selection. Changes in language are the exclusive work of man; those in species by natural selection, if they existed at all, the spontaneous work of nature, unaided by man, and in operation long before he was created.

All the languages of the world have been reckoned by some at 4,000, and by others at 6,000, but it is certain the real number is unknown. There can, however, be no doubt but that they are many, and that, making an ample allowance for mere dialects or branches of a language, many real languages will still remain. Some of those are derivative, and some primordial—the first prevailing chiefly in Central and Western Asia and in Europe, where an advanced society has given rise to those conquests and intermixtures which produce revolutions in language; and the last in Africa, America, Eastern Asia and its islands, where these causes of change have either been of feeble operation or have produced no effect at all.

As a general rule, languages are numerous in proportion as men are barbarous—that is, in proportion as we get nearer to the time when each primordial horde, or tribe, framed its own independent tongue. As we advance in society, they become fewer. This last is the result of the amalgamation of several tongues, and the disappearance of others. There are more languages in Africa and in America than in Continental Asia; and probably as many in Australia, with its handful of aborigines, as in Europe. In Mexico, the most civilised part of America, and where, as far as regards that continent, they are consequently the fewest, there are still twenty native languages; not dialects, says Humboldt, but languages as different from each other as German is from Spanish.

France and England have each three languages, and, in both cases, two of these are in progress of extinction. China is said to have eighteen languages—not many for a population of 400 millions. Considering the uniformity of manners, customs, and laws which prevails over that vast country, it is probable that by this time the eighteen would have been reduced to one, had the accident of a language which is one of the eye and not of the tongue interposed to arrest this uniformity. Java, with twelve millions of inhabitants, has but two languages; while in rude and barbarous Borneo, with probably not a tithe of its population, fifty have been counted. A single foreign tongue will in no long time pervade the whole continent of North America, superseding and extinguishing the hundreds of languages which are known to have prevailed in it within the last three centuries. But it is not necessary to multiply examples, and I quote these only to show that the origin and history of language are a very different thing from what certain learned philologists have imagined it.

The only other portion of the work of Sir Charles Lyell on which I can presume to offer an opinion is that in which

he compares man with the apes, placing them anatomically and physiologically in the same category; and even here, the views which I have to offer are more of a popular than scientific character. To begin with the brain. Even if there were no material structural difference between the brain of man and that of the most man-like ape, what would be the practical value of the resemblance, when the working of the two brains is of a nature so utterly different—less an affair of degree than of absolute quality? The brains of the dog and elephant bear no resemblance to the brain of man or ape, or even to those of each other; yet the dog and elephant are equal, if not indeed superior, in sagacity to the most man-like ape. The brain of the wolf is anatomically the same with that of the dog; but what a vast difference in the working of the two brains! The wolf is a hereditary untameable, rapacious glutton; the dog has been the friend, companion, and protector of man from the earliest period of history. It is beyond the means of the savages of Australia to breed the dog; they therefore repair to a litter of wild pups, and take from it the strongest males. These they rear, and, when grown, they assist them in the chase. They are fed as long as the savages have anything to spare; and, when they have not, the dogs hunt for themselves, returning in due time to their masters. To domesticate or even to tame a wolf, with a brain of the same structure, is what no man has ever yet succeeded in.

The common hog is an animal of great intelligence, and wants only a pair of hands like the ape's to enable him to make an equal if not a superior display of it to that of the most anthropoid monkey. The sheep and goat have brains not distinguishable; yet the goat is a very clever animal, and the sheep a very stupid one. Is it not, from all this, an unavoidable conclusion, that between the brain of man and that of the lower animals, and between the brains of the lower

animals among themselves, there exist subtle differences which the most skilful anatomy has not detected, and most probably never will detect?

In the dentition of man and the apes there is certainly a singular accord. In the old-world apes, the number, form, and arrangement of the teeth are the same; the American monkeys, however, have four additional teeth, or thirty-six instead of thirty-two. The digestive organs also agree. Yet with this similarity, man is an omnivorous, and the monkey a frugivorous, animal, seemingly resorting to worms and insects only from necessity. The teeth of the monkeys are more powerful, proportionably, than those of man, to enable them to crush the hard-rinded fruits on which they mainly subsist, as well as to serve as weapons of defence, for they have no other.

Professor Huxley has very satisfactorily shown that the designation of 'quadrumanæ,' or four-handed, is incorrectly applied to the family of monkeys. Their feet are real feet, although prehensile ones; but the upper limbs are true hands, and it is in the possession of these, far more than in a similarity of brain, that the ape approaches the nearest to man. The hands serve the monkey in climbing, and for collecting food and conveying it to the mouth—in this last respect performing the same office that the trunk does for the elephant. Notwithstanding his seemingly dexterous hands, the monkey can neither fashion nor use an implement or weapon. It is his brain, anatomically so like that of man, but psychologically so unlike, that hinders him from performing this seemingly simple achievement.

While the similitudes of the monkeys to man are stated, it will be well to state also the dissimilitudes. In the relation of the sexes, the monkeys are sheer brute beasts. All the different races of man intermix to the production of fertile offspring. No intercourse at all takes place between the

different species of monkeys. Man, of one variety or another, exists and multiplies in every climate ; for there is hardly a country capable of affording him the means of subsistence in which he is not found. The monkeys are chiefly found within the tropics, and seldom above a few degrees beyond them. Even within the tropics there exist extensive regions in which they are not found. Thus, they do not exist in the Spice and neighbouring islands, in the tropical part of Australia, in the great island of New Guinea, nor in any of the countless islands of the Pacific Ocean. In adaptation to the vicissitudes of climate, the monkey is not only below man, but below the dog, the hog, the ox, and the horse, for all these thrive from the equator up to the 60th degree of latitude.

The natural abode of man is the level earth—that of the monkeys, the forest. If there were no forests, there would be no monkeys ; their whole frame is calculated for this mode of life. They are all good climbers, and some species exhibit a dexterity, facility, rapidity, and unfailing precision of movement along the branches and tops of trees, which is quite wonderful. Man came into the world naked and houseless, and had to provide himself with clothing and dwelling by the exercise of superior brain and hands. The monkeys are furnished by nature with a clothing like the rest of the lower animals, and their dwellings are not superior to those of the wild boar, nor for a moment comparable to those of the beaver. All the races of man, however low their condition, have been immemorially in a state of domestication ; but the monkeys of every species are as incapable of domestication as the wolf, the polar bear, or the tiger.

Man has the faculty of storing knowledge for his own use and that of all future generations ; in this respect every generation of monkeys resembles that which has preceded it, and so, most probably, has it been from the first creation of the

family. The special prerogative of man is language, and no race of man, however meanly endowed, has ever been found that had not the capacity of framing one. In this matter, the monkey is hardly on a level with the parrot or the magpie.

But is it true that the anthropoid apes come nearest to man in intelligence? They ought to do so, if they be the nearest grade to man in the progress of transmutation by natural selection. Professor Huxley has fully and faithfully described four of these anthropoids, and it appears to me that, among them, those which anatomically approach the nearest to man are the stupidest. At the top of the list is the gorilla, and all we know about him is, that he is ferocious and untameable. The ourang-outang, or mias, seems to me to be the nearest in form to man; but he is described as a slow, sluggish, dull, and melancholy animal. The other two species, the gibbon and chimpanzee, seem to be incomparably more lively, playful, and intelligent than the more anthropoid.

It appears by no means established that the most anthropoid apes have any superiority in intelligence—that is, superiority in the quality which would bring them nearest to man—over the least man-like monkeys. A little animal with a tail a yard long may be seen in our streets imitating human actions in a manner not to be excelled by the most expert gibbon or chimpanzee ever seen in the Zoological Gardens. The Hindûs, who ought from long experience to be competent judges, give the superiority of intelligence among monkeys, not to the anthropoid gibbon, but to a baboon with a very long tail, called the Hanuman, the *Semnopithecus Entellus* of naturalists. So satisfied are they of his superiority, that in one of the most celebrated of their fantastic epics they make him the commander-in-chief of the army of its hero, himself a demi-god, while they give details of the tricky expedients of the general.

If, adopting the theory of the transmutation of species by natural selection, and we believe the gorilla to be the next step to man in the progress of change, it must be taken for granted that the transmutation must have proceeded from the lower to the higher monkeys. Exclusive of the lemurs, there are some 200 distinct species. Which species is at the bottom of the long scale implied by this number, and has any naturalist ever ventured to describe the long gradation from it till we reach the gorilla? How are the tailed and the tailless monkeys to be classed, and how are we to place the monkeys of the new world, with their four supernumerary teeth?

As to the wide unbridged gulf which divides man from the gorilla, no one has more fully admitted it, and, I must add, so eloquently described it, as Professor Huxley, himself an advocate of the Darwinian theory. I quote his own words, when he refers to the structural differences between man and the gorilla:—‘Let me take this opportunity, then,’ says he, ‘of distinctly asserting that they are great and significant; that every bone of a gorilla bears marks by which it may be distinguished from the corresponding bones of a man; and that, in the present creation at any rate, no intermediate link bridges over the gap between *Homo* and *Troglodytes*. . . . At the same time, no one is more strongly convinced than I am of the vastness of the gulf between civilised man and the brutes; or is more certain that, whether *from* them or not, he is assuredly not *of* them. No one is less disposed to think lightly of the present dignity, or despairingly of the future hopes, of the only consciously intelligent denizen of this world.’

The monkeys, then, have an outward and even a structural resemblance to man beyond all other animals, and that is all; but why Nature has bestowed upon them this similarity is a mystery beyond our understanding.

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